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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/812,067 | 03/19/2001 | C. Kumar N. Patel | 256/051 | 8999 |

34026 7590 10/19/2004

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EXAMINER

NASSER, ROBERT L

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3736

DATE MAILED: 10/19/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/812,067

Applicant(s)

PATEL ET AL.

Examiner

Robert L. Nasser

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 and 47-56 is/are pending in the application.
- 4a) Of the above claim(s) 1-29, 33, 34, 40-45, 47-53, 55 and 56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-32, 35-39 and 54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Claims 1-29, 33, 34, 40-45, 47-53, 55, and 56 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10/2/2003.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30-32 are rejected under 35 U.S.C. 103(a) as being anticipated by Berry 6363772 in view of Olender et al 5834632. Berry shows a method of measuring the concentration of volatile organic markers, VOCs, in a breath sample, including admitting first a reference sample (see column 8 line 59 and the following passage) is admitted to a measuring chamber and then a sample of breath gas, with both samples, passing tunable radiation tuned to an absorption peak of the VOC through the chamber, measuring both photoacoustic emissions with microphone 34 and power of the incident beam with sensor 51, and using both measurements to determine the concentration of the substance of interest, e.g. the VOC. Berry does not use a second wavelength at a non-resonant frequency to measure background noise and then subtract the non-resonant signal from the resonant signal. The examiner notes such a noise rejection technique is well known in the medical arts. In addition, Olender teaches a photoacoustic measuring system that teaches that it is desirable to measure

background noise with a wavelength that does not affect the desired measurement target, to eliminate errors due to ambient noise (see column 9, line 48- column 10, line 44). Hence, it would have been obvious to modify Berry to use such a reference wavelength, to increase the accuracy of the measurements. The combined teaches would have two measuring wavelengths and 4 signals.

Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silkoff et al 6010459 in view of Berry 6363772 and Olender et al 5834632. Silkoff et al teaches that the concentrations ammonia and nitric oxide in human breath are indicators of disease. It does not use the detection method recited. Berry, as discussed above, further uses the above recited detection method to locate disease markers in breath. Hence, it would have been obvious to modify Silkoff to use the detection method of Berry, as it is merely the substitution of one known method for another.

Claims 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berry 6363772 in view of Olender et al, as applied to claims 30-32 above, further in view of Risby et al 6248078. Berry is a breath test that detects volatile organic compounds in human breath as disease markers. Risby et al further teaches that methane (alkane), alcohol, and ketones are known biomarkers for detecting diseases from a breath sample. Hence, it would have been obvious to modify Berry to detect the VOCs taught by Risby, as it is merely the substitution of one known VOC for another.

Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berry 6363772 in view of Olender et al 5834632, as applied to claims 30-32 above, further in view of in view of Bell 3893771. Berry teaches using both power and optoacoustic

output to determine the concentration, but does not disclose the formula and subtracting a reference signal from the measuring signal. Bell teaches the claimed method, in column 30, with respect to element 25. As such, it would have been obvious to modify Berry to use the method of determining the concentration of Bell, as it is merely the substitution of one known equivalent method for another. The examiner notes that the combined teachings would subtract a reference signal from a measuring signal in the formula provided by Bell.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Veronesi et al is another reference teaching measuring a background signal in photoacoustic measurements.

Applicant's arguments filed 7/13/2004 have been fully considered but they are deemed moot in view of the new grounds of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

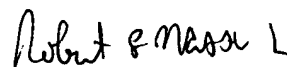
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert L. Nasser whose telephone number is (703) 308-3251. The examiner can normally be reached on Mon-Fri, variable hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (703) 308-3130. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Robert L. Nasser
Primary Examiner
Art Unit 3736

RLN
October 18, 2004



ROBERT L. NASSER
PRIMARY EXAMINER